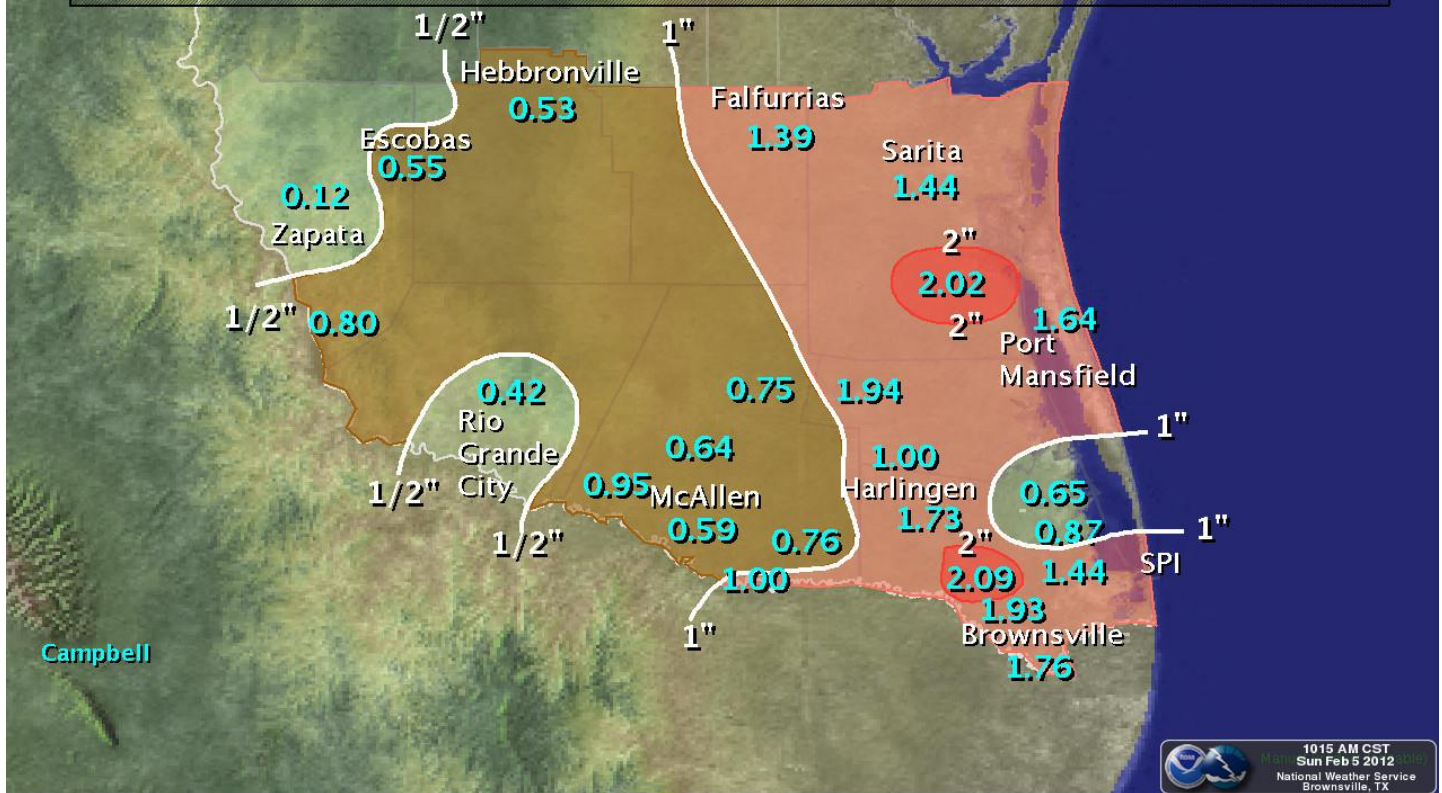


**Ending at 8 AM Sunday, February 5th**



# Drought...Denting?

## Welcome Rain on Feb. 4-5 to be Enhanced by More Through Feb. 11<sup>th</sup>

## Drought levels could improve from “Exceptional” to “Severe” in Lower Valley

## First Significant Rainfall since December

At last. A cluster of strong storms (box, below right) pummeled the Lower Rio Grande Valley Saturday afternoon, February 4<sup>th</sup>, dropping more than an inch and a half of rainfall in only an hour for portions of Cameron and Willacy County. The cold front that spawned the heavy weather was followed by a chilly light rain overnight, which dropped one half to one inch of rain in portions of Hidalgo County, and up to another half inch or so in the Lower Valley. Some event totals are shown on the map above; the entire set is listed below. Chilly weather after the rains kept temperatures in the 40s and 50s through February 6<sup>th</sup>, and increased soil moisture of gardens, fields, and ranchlands. The following table is a summary of rainfall from Saturday, February 4<sup>th</sup> through Sunday, February 5<sup>th</sup> at 10 AM:

OBSERVATION TYPE: - COCORAHS

CITY/TOWN	RAIN (INCHES)	COUNTY
SAN BENITO 5SSE	2.18	CAMERON
RANCHO VIEJO 0.7E	2.09	CAMERON
BROWNSVILLE 1.9ESE	1.95	CAMERON
BROWNSVILLE 4.4NE	1.93	CAMERON
BROWNSVILLE 5NW	1.79	CAMERON
LOS FRESNOS 0.3NE	1.76	CAMERON
HARLINGEN 2.6ESE	1.73	CAMERON

LOS FRESNOS	1.71	CAMERON
LA JOYA 11.1N	1.62	HIDALGO
BROWNSVILLE 6.4SE	1.60	CAMERON
BROWNSVILLE 0.1SSE	1.56	CAMERON
BROWNSVILLE 2.2W	1.52	CAMERON
BROWNSVILLE 4.1E	1.40	CAMERON
FALFURRIAS 0.5W	1.36	BROOKS
FALFURRIAS 8.9SSW	1.29	BROOKS
PALM VALLEY 2.2 SSW	1.05	CAMERON
HARLINGEN 4.3 WSW	0.88	CAMERON
LAGUNA VISTA 0.3N	0.87	CAMERON
HARLINGEN 4.7WSW	0.86	CAMERON
EDINBURG 1.1WSW	0.81	HIDALGO
PHARR 5.1N	0.80	HIDALGO
MISSION 1.9 ENE	0.77	HIDALGO
MCALLEN 2.4NE	0.74	HIDALGO
ALAMO 1.5NNE	0.71	HIDALGO

OBSERVATION TYPE: - ASOS/AWOS

AIRPORTS	RAIN	COUNTY
BROWNSVILLE/SPI (NWS)	1.76*	CAMERON
CAMERON COUNTY	1.44	CAMERON
HARLINGEN (VALLEY INTL)	1.00	CAMERON
BROOKS COUNTY	0.99	BROOKS
MID VALLEY WESLACO	0.76	HIDALGO
EDINBURG INTL	0.64	HIDALGO
MCALLEN MILLER INTL	0.59	HIDALGO
JIM HOGG COUNTY	0.53	JIM HOGG
ZAPATA	0.12	ZAPATA

OBSERVATION TYPE: - COOP

CITY/TOWN	RAIN	COUNTY
ARMSTRONG	2.02	KENEDY
RAYMONDVILLE	1.94	WILLACY
PORT MANSFIELD	1.64	WILLACY
SOUTH PADRE ISLAND	1.50	CAMERON
SARITA	1.44	KENEDY
FALFURRIAS	1.39	BROOKS
HARLINGEN	1.30	CAMERON
LA JOYA	0.95	HIDALGO
SANTA ROSA	0.78	HIDALGO
MCALLEN	0.68	HIDALGO
HEBBRONVILLE	0.65	JIM HOGG
ESCOBAS	0.55	ZAPATA
RIO GRAND CITY	0.42	STARR
MERCEDES	0.34	HIDALGO
EDINBURG	0.22	HIDALGO

OBSERVATION TYPE: - RAWs

CITY/TOWN	RAIN	COUNTY
SANTA ANA	1.00	HIDALGO
FALCON LAKE	0.80	STARR
LINN-SAN MANUEL	0.75	HIDALGO
LAGUNA ATASCOSA	0.65	CAMERON
HEBBRONVILLE	0.40	JIM HOGG

OBSERVATION TYPE - PUBLIC REPORTS

CITY/TOWN	RAIN	COUNTY
LOS FRESNOS 4W	1.86	CAMERON
SHARYLAND	1.44	HIDALGO

\* EXCEEDED MONTHLY AVERAGE RAINFALL

OBSERVATION TYPE LEGEND:

ASOS - AUTOMATED SURFACE OBSERVING SYSTEM (NWS/DOD)

AWOS - AUTOMATED WEATHER OBSERVING SYSTEM (FAA/OTHERS)

COOP - COOPERATIVE OBSERVER (NWS)

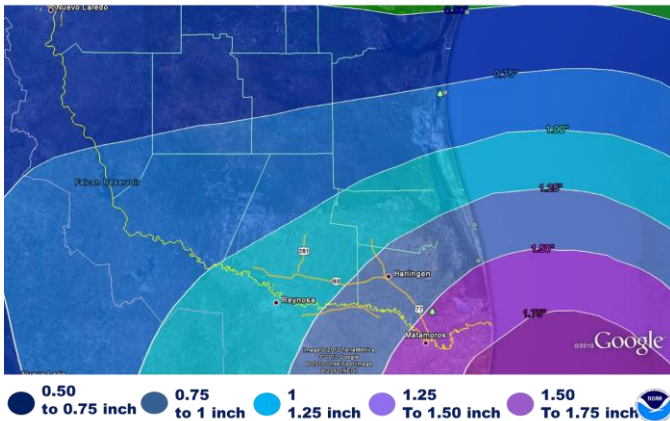
RAWs - REMOTE AUTOMATED WEATHER SYSTEM

COCORAHS - COMMUNITY COLLABORATIVE RAIN HAIL AND SNOW NETWORK

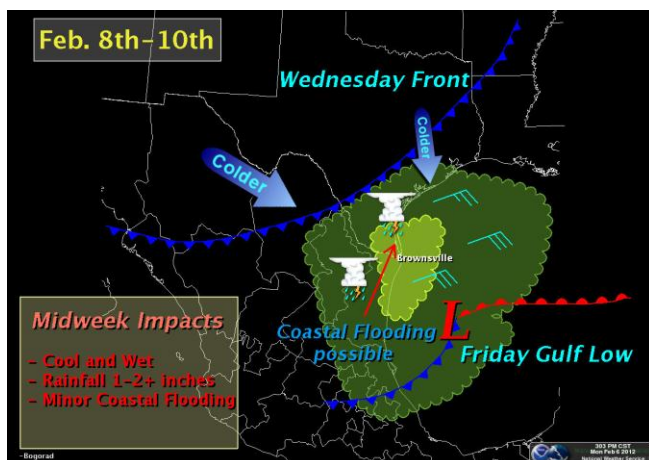
## What's Next

The potential is increasing for another 1 to 3 inches – or more - of rainfall between February 7<sup>th</sup> and 10<sup>th</sup>, possibly lasting into Saturday, February 11<sup>th</sup>. Week totals from the 4<sup>th</sup> through 11<sup>th</sup> could reach or exceed 5 inches in Cameron and Willacy County, which would push totals more than 3 inches above the full month average, 1.5 to 1.75 in these areas. In fact, there is a possibility that totals for the first fifteen days of February 2012 could become the highest on record in Brownsville (since 1878); current totals are at 1.83 and counting and the prior record is 3.60 in 1923; second place is just 2.61, a mere 0.78 inches from being reached as of February 6<sup>th</sup>.

## Rainfall Forecast February 7-9, 2011



The cause of the next round of rainfall is a slow moving, deep trough of low pressure high in the atmosphere (below). The trough will create a channel of persistent deep tropical moisture well above the earth's surface in the region of the atmosphere where rain is "made" (next page). Light rains will break out Tuesday, followed by periods of steadier, heavier rains Wednesday through Friday, probably continuing into Saturday – or beyond - before finally ending. Timing of each feature from Wednesday through the weekend remained uncertain as of this writing, but at the end of the period, the rain may be enough to dent the drought in the Lower Valley, and put a few smaller "dings" into the drought from western Hidalgo/Brooks County to the Ranchlands of Starr, Zapata, and Jim Hogg County.



## Not our First Rodeo...

A cluster of storms (below, left) slowly crossed through Cameron and Willacy County between 2 PM and 530 PM February 4<sup>th</sup>, bringing torrential rains, frequent cloud to ground lightning, and gusty winds of at least 35 mph. The storms also brought an array of scary looking skies, including shelf clouds (below, right), "scud" clouds, and rain shafts which may have looked like tornadoes or funnels to the untrained eye. We're still investigating reports of potential "gustnadoes" and even a possible landspout as of this writing.

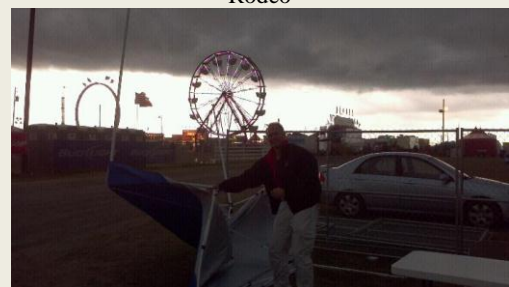
The storms slammed into the Los Fresnos Rodeo shortly before the first competitions were to begin that evening; more than an inch of rain fell at the end of the pre-event carnival, with attendees having sheltered prior to the heaviest rains and lightning strikes. NWS Brownsville/Rio Grande Valley provided onsite and remote decision support to city officials prior to the arrival of the squall and helped keep visitors safe.



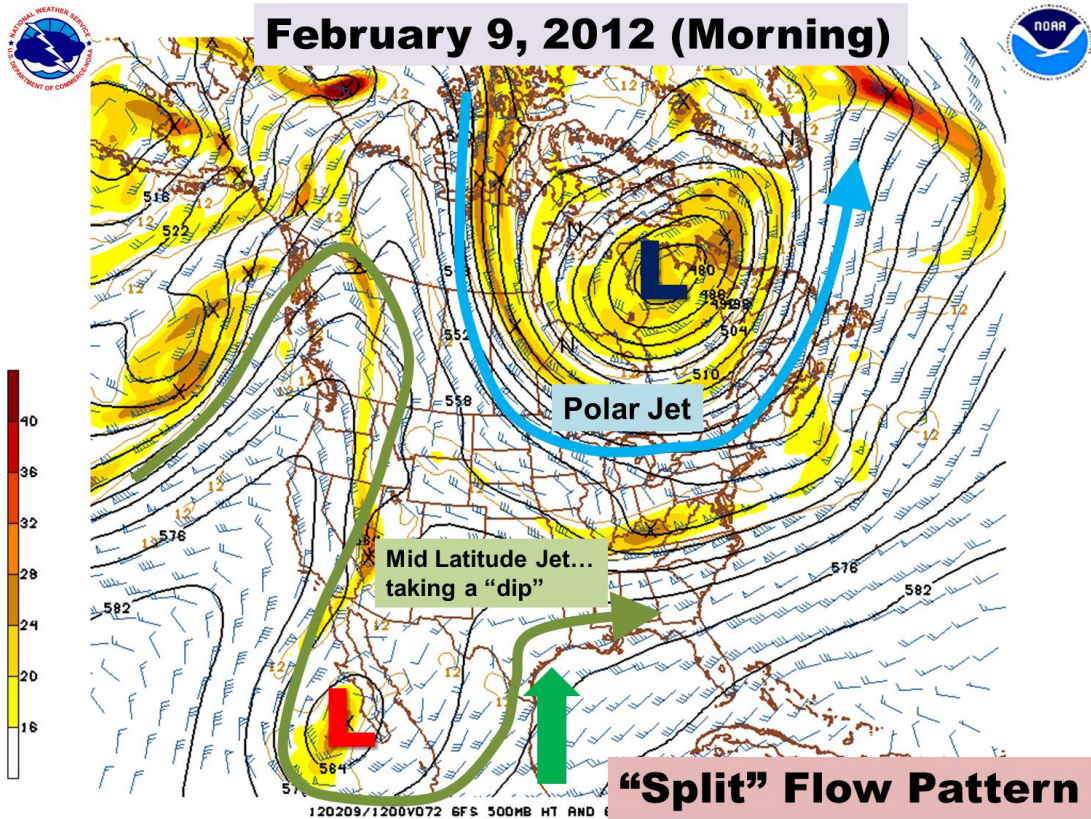
Radar depiction of approaching squall line. Photo taken about same time in North Brownsville ahead of the leading edge of the line.



Science and Operations Officer Doug Butts at NWS Booth, Los Fresnos Rodeo



Meteorologist-in-Charge Steve Drillette moving out ahead of the gust front



Mid atmosphere weather pattern for mid to late week, February 9<sup>th</sup> and beyond. Polar jet and associated frigid air remains locked up in Canada (blue arrow) while mid latitude jet (green arrow) takes a very steep "dip" into the tropics south of Baja. Bright green arrow indicates deep flow from the south and southwest above the surface, tapping tropical air and enhancing rain potential for the RGV through February 11<sup>th</sup>.